

Alcimedea

A particularly sad and unusual case report was published in *Forensic Science International* recently (2007; 169: e1–e2). It involved a 23-year-old woman who neighbours discovered hanging from the ceiling of her house. A live healthy male newborn baby was lying on the ground next to her with the umbilical cord in situ and placenta inside the uterus. The woman, a primigravida of average build and low socioeconomic status, was in the last trimester of her pregnancy and had gone into labour on the morning of her death. The labour pains became worse in the afternoon and her husband went out to call for some help to conduct the delivery. During the absence of her husband, the wife bolted the door from inside and committed suicide by hanging. During this process she delivered a healthy male baby. This is believed to be the first recorded case of a pregnant woman successfully delivering a healthy baby following suicide by hanging.

A review article that considers the role of the forensic expert witness provides some cautionary tales (For Sci Int 2007; 168: p. 89–94). The authors remind us of the importance of only accepting instruction as an expert if the matter is within one's own area of expertise. They suggest that, at times, the allure of the fame, thrill and remuneration that may accompany involvement in a legal matter may tempt doctors to provide an expert opinion even when their forensic expertise is minimal. In support of this contention they cite examples from forensic biology, anthropology and medicine, such as two separate instances of single gunshot wounds to the head where neurosurgeons confidently, but incorrectly, stated that the entrance wounds were located on the left side (the non-dominant hand of the victims), thus increasing the likelihood that the wounds were not self-inflicted. We are reminded of Professor Stephen Hawkins' dictum that "the greatest enemy of knowledge is not ignorance, it is the illusion of knowledge".

Victims of lethal heroin overdose often present with fairly low blood concentrations of morphine. In such cases, reduced tolerance due to abstinence has been proposed to account for this finding. A study that included 60 deceased

drug addicts in the Stockholm area set out to examine the role of abstinence in drug-related deaths by comparing recent and past exposure to opioids using segmental hair analysis with the postmortem blood morphine concentrations (For Sci Int 2007; 168: p. 223–6). In 18 of the 28 heroin fatalities, opioids were absent in the most recent hair segment, suggesting a reduced tolerance to opioids. However, the blood morphine levels were similar to those found in the 10 subjects that showed continuous opioid use. Hair and blood analysis disclosed an extensive use of additional drugs that directly or indirectly may influence the opioid system. The results suggest that abstinence is not a critical factor for heroin overdose death as tolerant subjects appear to die after intake of similar doses. Other factors, particularly polydrug use, seem to be more causally important for these deaths.

Generating DNA profiles from trace levels of DNA found on handled items is a tool that is frequently used in forensic laboratories worldwide. In the past it has been proposed that individuals can be categorized as being either good or bad at depositing DNA on handled objects (good or bad 'shedders'). However, research that investigated factors influencing the transfer of DNA to handled objects suggests that many factors significantly influence shedding, including which hand an individual touches an item with and the time that has elapsed since they last washed their hands. The authors found that it may be more complicated than previously reported to categorise a person as being either a 'good' or a 'bad' shedder and that if truly 'good' shedders exist they may be significantly rarer than some have estimated. In the current research no 'good' shedders were observed in a group of 60 volunteers (For Sci Int 2007; 168: p. 162–8).

Dextromethorphan (DXM) is an anti-tussive agent that is a common component of combination cold medications, such as Robitussin® products. In recent years it appears that DXM has become a popular recreational drug, particularly amongst young adults in the USA. Abusers of DXM often need to increase their doses over time in order to increase the desired effects of euphoria,

hallucinations and dissociation. However, this also requires an ever-increasing ingestion of the associated gaifenesin, saccharin, propylene glycol and alcohol that are also included in the cold preparations they abuse. In order to get round this problem, abusers of DXM have developed a simple acid-base extraction technique to “free-base”, or extract, the DXM from the unwanted constituents that are typically included in combination cold preparations. However, this is not without its dangers, as illustrated by the report of a case of DXM overdose after ingestion of this purified “Crystal Dex” (J Emerg Med 200732: p. 393–6).

For some years in the United Kingdom, the double swab technique, using a wet cotton swab followed by a

dry swab, has been the recommended way of retrieving material for DNA analysis from touched objects. Therefore, it was encouraging to read the results of a study comparing DNA yields from a single wet swab with that from double swabbing (Legal Med 2007; 9: p.181–4). The researchers found that DNA recovered from some of the second dry swabs following double swabbing contained sufficient DNA to yield a DNA profile and that a single wet swab may not recover epithelial cells present on the surface efficiently. They concluded that the use of a wet and dry second swab technique improves the DNA profiling results and is to be recommended for collecting touched evidence at crime scenes.